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Notice of Allowability	Application No.	Applicant(s)	
	10/046,805	LEE ET AL.	
	Examiner	Art Unit	
	Lisa A Kilday	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to TD filed on 2/26/4.
 2. ☒ The allowed claim(s) is/are 1-13,34-41 and 60-62.
 3. ☒ The drawings filed on 27 February 2002 are accepted by the Examiner.
 4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>2/26/4</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Ernest P. Karlson

**ERNEST KARLSEN
PRIMARY EXAMINER**

Terminal Disclaimer

The terminal disclaimer filed on 2/26/4 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of 6,432,820 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

Claims 1-13, 34-41, 60-62 allowed.

The following is an examiner's statement of reasons for allowance: in re claims 1-13, prior art fails to teach or suggest a method of forming a metal layer in an integrated circuit device with the limitation of forming a selective electroplating mask on the sidewall to provide a covered portion of the sidewall and to provide an exposed portion of the sidewall that is free of the selective electroplating mask in combination with the step of electroplating a metal on the exposed portion of the sidewall thus forming an insulation collar or conductive contact in the recess of the integrated device.

In re claims 34-41, prior art does not teach or suggest a method for fabricating a metal layer in a semiconductor device with the limitation of forming a selective electroplating mask inside a portion of a hole/concave portion that covers a portion of the conductive underlying layer and exposes a portion of the conductive underlying layer in combination with selectively electroplating the inside of the hole/concave portion that is exposed.

In re claims 60-62, prior art does not teach or suggest a method of forming a metal layer in an integrated circuit device by forming a recess in a surface of an

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insulating layer, forming a selective deposition mask on the sidewall of the recess where there is a covered portion of the sidewall and an exposed portion of the sidewall in combination with depositing a metal on the exposed portion of the sidewall.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0957. See MPEP 203.08.

Any inquiry concerning this communication from the examiner should be directed to Lisa Kilday whose telephone number is (571) 272-1962. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo, can be reached on (571) 272-1957. The fax number for the group is (703) 872-9306. MPEP 502.01 contains instructions regarding procedures used in submitting responses by facsimile transmission.

Lisa Kilday

LAK

4/12/04


ERNEST KARLSEN
PRIMARY EXAMINER